

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-009037**Date Inspected:** 13-Sep-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Zhu Tian Shu, Mr. Li Yang

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 2

This QA Inspector observed ZPMC welder Ms. Cheng Haixia, stencil 045209 is using flux cored welding procedure WPS B-T-2231-TC-U4C-F-1 to make OBG floor beam weld FB3091-001-044. This QA Inspector observed a welding current of 315 amps and 27.0 volts and ZPMC QC Inspector Mr. Xiang Feng is monitoring this welding. This QA Inspector observed that Ms. Cheng Haixia is certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Wang Chaili stencil 045203 is using flux cored welding procedure WPS B-T-2231-TC-U4C-F-1 to make OBG floor beam weld FB3091-001-044. This QA Inspector observed a welding current of 300 amps and 30.5 volts and ZPMC QC Inspector Mr. Xiang Feng is monitoring this welding. This QA Inspector observed that Ms. Wang Chaili is certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

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OBG Bay 5

This QA Inspector observed ZPMC welder Mr. Li Yuan Zheng, stencil 217185 is using flux cored welding process WPS-B-T-2131-TC-U4C-F-1 to make traveler rail support flux cored groove weld TR1E-PP74-9. The QA Inspector measured a welding current of approximately 290 amps and 30.0 volts. This QA Inspector observed that Mr. Li Yuan Zheng is certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Si Gaofeng, stencil 204342, is using welding procedure WPS-B-T-2233-TC-U4C-F to make cantilever beam groove weld BK001-026-011. This QA Inspector observed a welding current of approximately 200 amps 26.3 volts and Mr. Si Gaofeng is certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xin Meng, stencil 053742, is using welding procedure WPS-B-T-2233-TC-U4b to make cantilever beam groove weld BK001-027-042. This QA Inspector observed a welding current of approximately 200 amps 25.0 volts and Mr. Xin Meng is certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Naijun, stencil 205390, is performing traveler rail baseplate bolt repairs. This QA Inspector observed a welding current of approximately 300 amps 29.5 volts and Mr. Chen Naijun is certified to make this weld. It appears that ZPMC drilled holes in the wrong locations and these welds are to fill in the holes and ZPMC appears to intend to drill new holes in the correct locations. This QA Inspector observed Mr. Naijun appears to be completed the root pass between the backing plate and the bottom of the elongated holes. This QA Inspector asked ZPMC QC Inspector Mr. Wang Liang what document is controlling these bolt hole repairs and he showed this QA Inspector in critical weld repair document B-CWR727. This QA Inspector observed this CWR states "All gouging, grinding and welding should be inspected by QC and Leader CWI" This QA Inspector asked Mr. Wang Liang if he was aware that a CWI is required to witness this welding. Mr. Wang Liang said he will call CWI Li Yong and he will inform him that a CWI is required to witness these critical weld repairs. This QA Inspector asked Mr. Wang Liang which welding procedure specification and preheat is required for this weld repair and he informed this QA Inspector that ZPMC is using WPS WPS-345-FCAW-1G-Repair-Misdrilled hole. This QA Inspector asked CWI Mr. Li Yong what preheat temperature is being used for this weld repair. Mr. Li Yong and Mr. Wang Liang did not appear to know the minimum preheat temperature and after they consulted the welding procedure Mr. Li Yong stated that a preheat temperature of 20 degrees Celsius is needed. Following the discussion Mr. Chen Naijun disassembled his welding equipment and appeared to be preparing to end his work shift. Items observed on this date do not fully appear to comply with applicable contract documents.

OBG Bay 13

At around 2100 hours this Caltrans Quality Assurance (QA) Inspector observed ZPMC welder Mr. Liu Liyan stencil 050372 performing flux cored base metal welding of approximately 75 to 100 locations of the bottom surface of OBG panel point 63, lift 8AW in the 4G (overhead) position. This QA Inspector observed Mr. Liu Liyan is not certified to perform welding in the 4G position, but he is certified to perform welding in the 1G, 2G and 3G positions. At around 2105 hours this QA Inspector asked QC Inspector Mr. Tong Ya Jun to have the

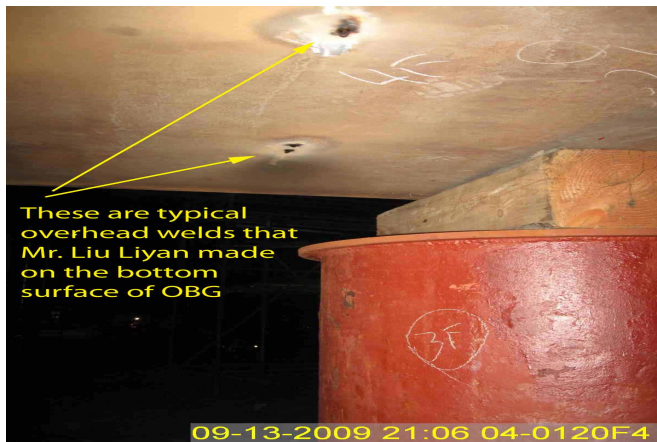
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responsible ZPMC certified welding inspector (CWI) come to the location where this overhead welding took place at the front of OBG Bay 13. Mr. Tong Ya Jun phoned ZPMC CWI Mr. Lu Li Qing and asked him to come to the front of OBG Bay 13. About 20 minutes later this QA Inspector asked Mr. Tong Ya Jun when ZPMC CWI Mr. Lu Li Qing is going to arrive and after a phone call was made QC Inspector Mr. Tong Ya Jun informed this QA Inspector that ZPMC CWI Mr. Lu Li Qing was at home, and there were no other certified welding inspectors in OBG Bay 13. This QA Inspector informed Mr. Tong Ya Jun and ABF representative Mr. Tang You Qing that this QA Inspector is going to issue an incident report documenting ZPMC Mr. Liu Liyan is not certified to perform overheads welding and ZPMC appears to be performing welding of OBG segment 8AW at the front of OBG Bay 13 without any ZPMC CWI being present. See the photographs below for additional information

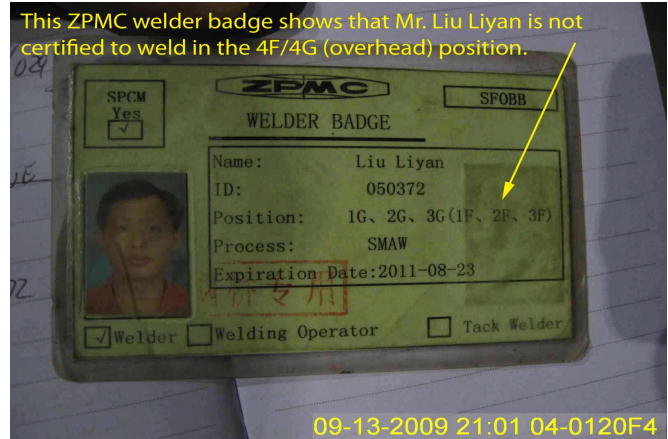
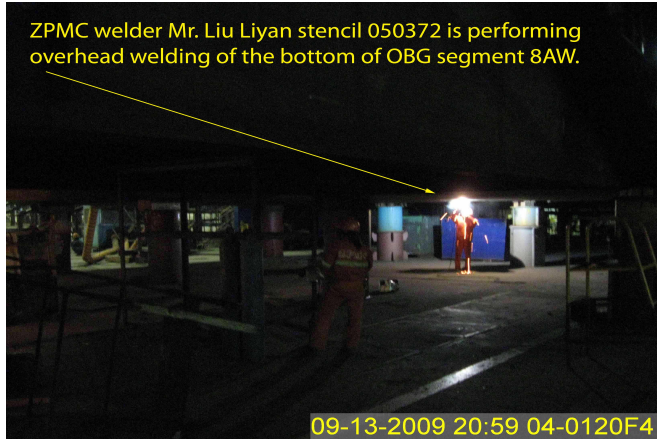
OBG Bay 14

At around 2130 hours ABF representative Mr. Wang Chao informed this QA Inspector that no ZPMC personnel are welding in OBG Bay 14 and all ZPMC QC Inspectors have left the jobsite. This QA Inspector walked the entire length of OBG Bay 14 and near the back of the OBG Bay 14 this QA Inspector observed ZPMC welder Mr. Lv Fengbao, stencil 045175 using flux cored welding process to weld diaphragm plates on deck panel DP126-002 and DP261-001. This QA Inspector observed a welding current of approximately 230 amps and 30.0 volts. This QA Inspector observed that Mr. Lv Fenbao is certified to make this weld. This QA Inspector informed ABF representative Mr. Wang Chao there does not appear to be any Quality Control (QC) personnel to monitor welding activities and that this QA Inspector is issuing an incident report to document this violation. Items observed on this date do not appear to comply with applicable contract documents. See the photograph below for additional information.



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Summary of Conversations:

See above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
